

Australian Standard[®]

Methods for sampling and analysis of indoor air

Method 7: Determination of total suspended particulate matter—Gravimetric method

PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee EV-007, Methods of Examination of Air. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide regulatory and testing bodies with a standard method for determining indoor total suspended particulate matter.

FOREWORD

Suspended particles are emitted in indoor air from a number of sources. Combustion sources such as cigarette smoking, food cooking and space heating are common together with the ingress of suspended particles from outdoor sources such as dust, moulds and similar material. It is recognized that concentration, size, morphology and composition are important health influences. Outdoor sources of suspended particulate matter include vehicle emissions, crustal dust, wear particles, and biogenic material.

The majority of suspended particles indoors are less than 10 µm in EAD and are thus in the respirable range. Indoor sources also contain textiles, moulds, wear particles, skin and dander fragments. Elevated concentrations of suspended particles can increase mortality and morbidity and impair breathing, particularly in those suffering from a respiratory disease such as asthma. Larger particles settle and can cause soiling and increased cleaning costs.

METHOD

1 SCOPE

This Standard sets out the method for the sample collection and gravimetric analysis of suspended particles in indoor air over the sampling period employed. The particles collected will have an equivalent aerodynamic diameter (EAD) of less than approximately 50 µm and greater than about 0.5–1 µm depending on filter loading.